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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
09/685,284	10/10/2000	Wayne R. Lumpkin	AVID.13-2	4451

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EXAMINER

KRAMER, DEVON C

ART UNIT	PAPER NUMBER
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3613

12

DATE MAILED: 12/21/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/685,284

Applicant(s)

Lumpkin et al

Examiner

Devon Kramer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 11, 2001
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above, claim(s) 1 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-5, 8, 10-13, and 16 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 9, 14, 15, and 17 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 11
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER

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DETAILED ACTION

Information Disclosure Statement

1. The substitute information disclosure statement has been received and considered by the examiner. Please note the initial copy attached to the action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-5, 8, 10-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (6230850) in view of Tosdale.

Huang provides a cable actuated mechanical disc brake caliper comprising: a caliper housing (1); a cable guide (figure 2) rigidly fixed to the housing, the cable guide having a cable receiving bore extending along a guide axis for axially receiving a cable; a lever arm (6) pivotably attached to the caliper housing for pivoting about a pivot axis, the lever arm being operatively associated with a brake pad to move the brake pad between a retracted and an extended position as the lever arm is pivoted in a first direction from a non-actuated position to a fully actuated position, the lever arm including a cable clamp where it is attached to the lever, the clamp radially spaced from the pivotal attachment for fixedly attaching a cable to the lever arm in a selected orientation relative to the lever arm at an attachment point, the attachment point being essentially

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coincident with the guide axis with the cable arm in the fully actuated position; and the cable clamp clamps along an axis perpendicular to the pivot axis. Huang lacks a guide surface curved about the pivot axis.

Tosdale provides a guide surface (figure 3) curved, concentric and eccentric about a pivot axis (22) having a first portion attached to the lever arm (20) with the attachment point essentially coincident therewith and a second portion (the portion shaded along the curve of the wire in figure 3) circumferentially spaced from the first portion, the second portion being essentially tangent to the guide axis with the lever arm in the non-actuated position; the guide axis remains tangent to the curved surface as the lever pivots.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the caliper of Huang with the cable guide as taught by Tosdale in order to reduce the stress acting on the cable and the clamp and further to distribute the forces transmitted through the cable evenly throughout the length of the guide surface.

4. Claim 2-5, 8, 10-13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyomasu in view of Tosdale.

Toyomasu provides a cable actuated mechanical disc brake caliper comprising: a caliper housing (1); a cable guide (29) rigidly fixed to the housing, the cable guide having a cable receiving bore extending along a guide axis for axially receiving a cable; a lever arm (16a) pivotably attached to the caliper housing for pivoting about a pivot axis, the lever arm being operatively associated with a brake pad to move the brake pad between a retracted and an

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extended position as the lever arm is pivoted in a first direction from a non-actuated position to a fully actuated position, the lever arm including a cable clamp where it is attached to the lever, the clamp radially spaced from the pivotal attachment for fixedly attaching a cable to the lever arm in a selected orientation relative to the lever arm at an attachment point, the attachment point being essentially coincident with the guide axis with the cable arm in the fully actuated position; the cable clamp clamping along an axis perpendicular to the pivot axis. Toyomasu lacks the teaching of a curved guide surface.

Tosdale provides a guide surface (figure 3) curved, concentric and eccentric about a pivot axis (22) having a first portion attached to the lever arm (20) with the attachment point essentially coincident therewith and a second portion (the portion shaded along the curve of the wire in figure 3) circumferentially spaced from the first portion, the second portion being essentially tangent to the guide axis with the lever arm in the non-actuated position; the guide axis remains tangent to the curved surface as the lever pivots.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the caliper of Toyomasu with the cable guide as taught by Tosdale in order to reduce the stress acting on the cable and the clamp and further to distribute the forces transmitted through the cable evenly throughout the length of the guide surface.

Allowable Subject Matter

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5. Claims 6, 7, 9, 14-15, 17 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

6. Applicant's arguments filed November 13, 2001 have been fully considered but they are not persuasive.

The use of guiding a cable over a guided surface to actuate a mechanism is known throughout the mechanical arts. Many devices, some cited in the instant application, provide evidence that using a curved surface is desirable to cut down on friction during movement.

Applicant argues that Huang does not provide a cable guide rigidly fixed to a housing. Clearly the cable guide is rigidly fixed by means of the two extending flanges, now where is it stated that the cable guide pivots.

Tosdale also teaches the use of a fixed cable guide as seen in all the figures of the patent application. The guide is fixed to a support structure and is fixed throughout the movement of the curved surface. Tosdale is used to teach the use of a curved surface used to guide a cable in the actuation of a mechanical device.

The motivation for the combination of Huang over Tosdale is clear. The curved surface that Tosdale teaches is known to reduce friction and is used in a number of various mechanical areas to transmit forces from a cable.

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Please note that the examiner relies upon figure 1 of Toyomasu when combining Toyomasu with Tosdale. The curved surface of Tosdale would clearly reduce friction which would occur the cable connection point of figure 1 of Toyomasu.

7. The Declaration under 37 CFR 1.132 filed November 11, 2001 is insufficient to overcome the rejection of claims 2-5, 8 13-13 and 16 based upon the claims as set forth in the last Office action because:

It include(s) statements which amount to an affirmation that the claimed subject matter functions as it was intended to function. This is not relevant to the issue of nonobviousness of the claimed subject matter and provides no objective evidence thereof. See MPEP § 716.

In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carre et al provides a brake device using a wire guided over a curved surface.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devon Kramer whose telephone number is (703) 305-0839.

DK

December 14, 2001

CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER

